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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.       |
|---|-------------|----------------------|-------------------------|------------------------|
| 10/575,202  | 04/10/2006  | Daisuke Kumaki       | 0553-0488               | 7114                   |
| 26568   | 7590        | 10/15/2008           |                         |                        |
| COOK ALEX LTD<br>SUITE 2850<br>200 WEST ADAMS STREET<br>CHICAGO, IL 60606 |             |                      | EXAMINER<br>HO, ANTHONY |                        |
|   |             |                      | ART UNIT<br>2815        | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>10/15/2008 | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/575,202 | <b>Applicant(s)</b><br>KUMAKI ET AL. |  |
|                              | <b>Examiner</b><br>ANTHONY HO        | <b>Art Unit</b><br>2815              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/10/2006, 7/9/2008</u> .                                     | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 1-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on July 9, 2008.

Examiner has withdrawn the restriction requirement between Groups 1 and 2 and between Groups 3 and 4, but the restriction requirement between Groups 1-2 and Groups 3-4 stand.

Applicant's election with traverse of Groups 3 and 4 (claims 15-16) in the reply filed on July 9, 2008 is acknowledged. The traversal is on the ground(s) that Fuji Denki Co., Ltd. (JP 2003-272855) does not disclose the feature of the first layer, the second layer, the third layer, the fourth layer (as these layers are defined in the claims, and the cathode provided in order. This is not found persuasive because at least Forrest et al (US Patent 5,703,436) discloses these features (see rejections below).

The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on April 10, 2006 was filed after the mailing date of the instant application on April 10, 2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

The information disclosure statement (IDS) submitted on July 9, 2008 was filed after the mailing date of the instant application on April 10, 2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Objections***

Claim 30 is objected to because of the following informalities: For examination purposes, please replace "comopprises" in line 2 of claim 30 with "comprises".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 15 and 16 recite the limitation “wherein the first layer, the second layer, the third layer, the fourth layer, and the cathode are provided in order,” but it is unclear what kind of order is being recited. For example, is the first layer on top of the second layer or is the second layer on top of the first layer, and how with respect to the anode and cathode? Thus, one of ordinary skill in the art would not be able to define the metes and bounds of the claimed invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-22, 26-28 and 31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Forrest et al (US Patent 5,703,436).

In re claims 15 and 16, Forrest et al discloses a light emitting device comprising: a first layer (22E) containing a light-emitting material; a second layer (21T or 21E) containing an organic compound and an electron-supplying material; a third layer (middlemost 26I)

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including a transparent conductive film; and a fourth layer (20H) containing a hole transporting material; wherein the first layer, the second layer, the third layer, and the fourth layer are sandwiched between an anode (38) and a cathode (topmost 26M), wherein the first layer, the second layer, the third layer, the fourth layer, and the cathode are provided in order, and wherein the cathode has a layer containing reflective metal (i.e. Figure 2C; column 4 - column 6).

In re claim 17, Forrest et al discloses using one of the listed materials for the cathode (i.e. column 4).

In re claim 18, Forrest et al discloses using ITO for the transparent conductive film (i.e. column 4).

In re claims 19 and 20, Forrest et al discloses using metal complexes for the second layer (i.e. column 7).

In re claims 21 and 22, Forrest et al discloses using one of the listed metals for the organic compound (i.e. column 7, column 10).

In re claims 26-28, Forrest et al discloses using an organic compound for the hole transporting layer (i.e. column 10 - column 11).

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In re claim 31, the recitation “wherein the electronic device is one selected from the group consisting of a television receiving machine, a personal computer, head mount display, a mobile phone and a video camera” in the claim specifies an intended use or field of use and is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

### ***Claim Rejections - 35 USC § 103***

Claims 23-25 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forrest et al (US Patent 5,703,436) as applied to claims 15 and 16 above, and further in view of Ishihara et al (US PUB 2003/0048072).

Ishihara et al discloses using materials such as molybdenum oxide and vanadium oxide for a hole-transport layer in an organic light emitting device (paragraph 0047).

The advantage is to have an appropriate level of ionization potential to lower the injection barriers in the light emitting device (paragraph 0047).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified the light emitting device as taught by Forrest et al with using materials such as molybdenum oxide and vanadium oxide for a hole-transport layer in an organic light emitting device as taught by Ishihara et al in order to have an appropriate level of ionization potential to lower the injection barriers in the light emitting device.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Liao et al (US Patent 7,273,663)
- b. Kim et al (US Patent 6,614,176)
- c. Peng (US Patent 6,876,144)
- d. Hatwar (US Patent 6,720,092)
- e. Liao et al (US Patent 6,765,349)
- f. Lee et al (US Patent 7,365,486)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY HO whose telephone number is (571)270-1432. The examiner can normally be reached on M-Th: 10:30AM-9:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. H./  
Examiner, Art Unit 2815

/Jerome Jackson Jr./  
Primary Examiner, Art Unit 2815